110102 Minesweeper

Have you ever played Minesweeper? This cute little game comes with a certain operating system whose name we can't remember. The goal of the game is to find where all the mines are located within a $M \times N$ field.

The game shows a number in a square which tells you how many mines there are adjacent to that square. Each square has at most eight adjacent squares. The 4×4 field on the left contains two mines, each represented by a "*" character. If we represent the same field by the hint numbers described above, we end up with the field on the right:

*	*100
	2210
.*	1*10
	1110

Input

The input will consist of an arbitrary number of fields. The first line of each field contains two integers n and m (0 < $n, m \le 100$) which stand for the number of lines and columns of the field, respectively. Each of the next n lines contains exactly m characters, representing the field.

Safe squares are denoted by "." and mine squares by "*," both without the quotes. The first field line where n = m = 0 represents the end of input and should not be processed.

Output

For each field, print the message Field #x: on a line alone, where x stands for the number of the field starting from 1. The next n lines should contain the field with the "." characters replaced by the number of mines adjacent to that square. There must be an empty line between field outputs.

Sample Input	Sample Output
4 4	Field #1:
*	*100
	2210
.*	1*10
	1110
3 5	
**	Field #2:
	**100
.*	33200
0 0	1*100